



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Inventor/Appellant: Partho Sarkar

Title: CRACK-RESISTANT ANODE-SUPPORTED FUEL CELL

Application No. 10/658,803

Filed: September 9, 2003

Examiner/Art Unit: ALEJANDRO, Raymond / 1745

Attorney File No.: 2281-001-03

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited in the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Appeal Brief – Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 26th day of June, 2007.

Signature

RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF

Dear Commissioner for Patents:

In response to a Notification of Non-Compliant Appeal Brief mailed April 26, 2007 in the above-referenced patent application, please replace the Summary of Invention section of the Appeal Brief filed on February 8, 2007 with the following Summary of the Invention section:

V. *Summary of the Invention*

This summary of the invention provides cross-referencing to the application as required by 37 C.F.R. § 41.37(c)(v). This cross-referencing is solely to assist the Board in understanding the Applicant's invention and is not meant to be exhaustive or to limit the scope of the pending claims.

Independent claim 1 recites an anode-supported solid oxide fuel cell including an anode support layer comprising a porous ion-conducting structure having pores impregnated with a catalytic and electronically conductive material. An electrolyte layer is in adjacent intimate contact with the anode support layer and a cathode layer is in adjacent intimate contact with the electrolyte layer.

Figure 1 illustrates a planar anode-supported solid oxide fuel cell 2 corresponding to one embodiment of present invention covered by claim 1. The anode-supported solid oxide fuel cell recited in claim 1 corresponds to the fuel cell 2 in the embodiment of Figure 2. See paragraph 16. The anode support layer recited in claim 1 corresponds to an anode support layer (ASL) 16 in the embodiment of the fuel cell 2 shown in Figure 2. See paragraph 16. Claim 1 further recites that the anode support layer includes a porous ion-conducting structure having pores impregnated with a catalytic and electronically conductive material. This recited porous ion-conducting structure having pores impregnated with a catalytic and electronically conductive material is discussed in paragraph 19 with reference to the ASL 16. Claim 1 further recites an electrolyte layer that is in adjacent intimate contact with the anode support layer, where the recited electrolyte layer corresponds to an electrolyte layer 12 in the embodiment of Figure 1. See paragraph 16. Finally, claim 1 recites a cathode layer that is in adjacent intimate contact with the electrolyte layer, where the recited cathode layer corresponds to a cathode layer 10 in the embodiment of Figure 2. See paragraph 16.

Turning now to independent claim 12, this claim recites an anode-supported solid oxide fuel cell including a cathode layer in adjacent intimate contact with an electrolyte layer that is in adjacent intimate contact with an anode functional layer. The anode functional layer is in adjacent intimate contact with an anode support layer

comprising an ion-conducting structure with a plurality of vias extending through the thickness of the oxygen ion-conducting structure, with at least some of the vias being filled with electronically conductive material.

Claim 12 covers, for example, the embodiment of the present invention illustrated in Figure 2. The anode-supported solid oxide fuel cell recited in claim 12 corresponds to the fuel cell 2 in the embodiment of Figure 2. See paragraph 24. Claim 12 further recites that the fuel cell includes a cathode layer in adjacent intimate contact with an electrolyte layer that is in adjacent intimate contact with an anode functional layer. The recited cathode layer, electrolyte layer, and anode functional layer correspond to a cathode layer 10, electrolyte layer 12, and anode functional layer 14, respectively, in the embodiment of Figure 2. Claim 12 further recites that the anode functional layer, which corresponds to layer 14 in Figure 2, is in adjacent intimate contact with an anode support layer comprising an ion-conducting structure with a plurality of vias extending through the thickness of the oxygen ion-conducting structure, with at least some of the vias being filled with electronically conductive material. The recited anode support layer corresponds to the anode support layer 16 in the embodiment of Figure 2. See paragraph 24. The recited plurality of vias extending through the thickness of the oxygen ion-conducting structure correspond to the vias 20 in the embodiment of Figure 2. See paragraph 24.

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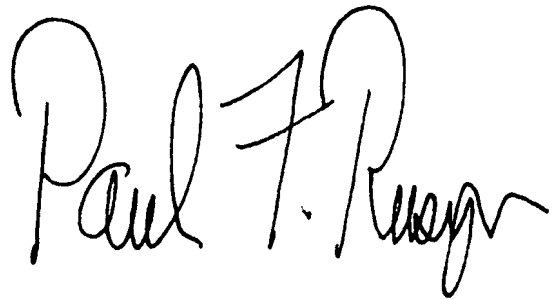
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Enclosed along with this response is check number 27990 in the amount of \$120.00 along with a copy of the Notification of Non-Compliant Appeal Brief. Please contact the undersigned at 425-455-5575 if with any questions or comments regarding this matter.

Dated: June 26, 2007

Respectfully submitted,

A handwritten signature in black ink, reading "Paul F. Rusyn". The signature is fluid and cursive, with the first name "Paul" being the most prominent.

Paul F. Rusyn

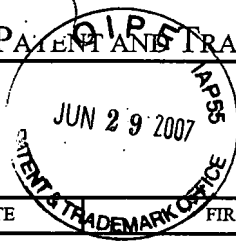
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Enclosures:

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10/658,803	09/09/2003	Partho Sarkar	2281-1-3	1819

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EXAMINER

ART UNIT PAPER NUMBER

DATE MAILED: 04/26/2007

Please find below and/or attached an Office communication concerning this application or proceeding.

APR 5 0 2007
GRAYBEAL JACKSON
HALEY LLP

ENTERED IN DOCKET

FOR: 5-26-07 Appeal Brief Am.
ON: 5-1-07 BY: AM
10-26-07 Appeal Brief Am.
General

Notification of Non-Compliant Appeal Brief
(37 CFR 41.37)

Application No. 10/658,803	Applicant(s) SARKAR ET AL.
Examiner Raymond Alejandro	Art Unit 1745

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

The Appeal Brief filed on 12 February 2007 is defective for failure to comply with one or more provisions of 37 CFR 41.37.

To avoid dismissal of the appeal, applicant must file an amended brief or other appropriate correction (see MPEP 1205.03) within **ONE MONTH or THIRTY DAYS** from the mailing date of this Notification, whichever is longer.

EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136.

1. ☐ The brief does not contain the items required under 37 CFR 41.37(c), or the items are not under the proper heading or in the proper order.
2. ☐ The brief does not contain a statement of the status of all claims, (e.g., rejected, allowed, withdrawn, objected to, canceled), or does not identify the appealed claims (37 CFR 41.37(c)(1)(iii)).
3. ☐ At least one amendment has been filed subsequent to the final rejection, and the brief does not contain a statement of the status of each such amendment (37 CFR 41.37(c)(1)(iv)).
4. ☒ (a) The brief does not contain a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number and to the drawings, if any, by reference characters; and/or (b) the brief fails to: (1) identify, for each independent claim involved in the appeal and for each dependent claim argued separately, every means plus function and step plus function under 35 U.S.C. 112, sixth paragraph, and/or (2) set forth the structure, material, or acts described in the specification as corresponding to each claimed function with reference to the specification by page and line number, and to the drawings, if any, by reference characters (37 CFR 41.37(c)(1)(v)).
5. ☐ The brief does not contain a concise statement of each ground of rejection presented for review (37 CFR 41.37(c)(1)(vi)).
6. ☐ The brief does not present an argument under a separate heading for each ground of rejection on appeal (37 CFR 41.37(c)(1)(vii)).
7. ☐ The brief does not contain a correct copy of the appealed claims as an appendix thereto (37 CFR 41.37(c)(1)(viii)).
8. ☐ The brief does not contain copies of the evidence submitted under 37 CFR 1.130, 1.131, or 1.132 or of any other evidence entered by the examiner **and relied upon by appellant in the appeal**, along with a statement setting forth where in the record that evidence was entered by the examiner, as an appendix thereto (37 CFR 41.37(c)(1)(ix)).
9. ☐ The brief does not contain copies of the decisions rendered by a court or the Board in the proceeding identified in the Related Appeals and Interferences section of the brief as an appendix thereto (37 CFR 41.37(c)(1)(x)).
10. ☒ Other (including any explanation in support of the above items):

See Continuation Sheet.

RAYMOND ALEJANDRO
PRIMARY EXAMINER

Raymond Alejandro
Primary Examiner
Art Unit: 1745

Continuation of 10. Other (including any explanation in support of the above items): See MPEP 1205.02. As applicant is well-aware, the summary of the claimed subject matter exceeds applicant's instant invention. For instance, applicant's Summary of Claimed Subject Matter discusses, inter-alia, "a pair of current collectors" (page 4 of the 02/12/07 appeal brief), "the cathode layer 10 being composed of magnesium doped lanthanum manganate (LaMnO_3) or a lanthanum strontium manganate (LSM)" (page 4 of the 02/12/07 appeal brief), "the electrolyte layer made of a fully dense (non porous) yttria-stabilized zirconia (YSZ)" (page 4 of the 02/12/07 appeal brief), "the specific target porosity of about 30 % or greater", "the sintering of the powder containing YSZ" (last paragraph on page 4 of the 02/12/07 appeal brief), "the specific impregnation process" (page 5 of the 02/12/07 appeal brief), "the operation of the fuel cell" (page 5 of the 02/12/07 appeal brief), "the hole punching method" (page 6 of the 02/12/07 appeal brief), "the specific electronically conductive materials Ag, Ag/Ni-alloy or other silver alloys, Cu, Cu alloys, Ni or Ni alloys, W, and its alloy" (page 6 of the 02/12/07 appeal brief), "the ASL serving as a current collector" (page 6 of the 02/12/07 appeal brief), "substantially free of Ni" (page 6 of the 02/12/07 appeal brief), "impregnated with Ni/Nio" (page 6 of the 02/12/07 appeal brief); "a graded composition along its thickness" (page 6 of the 02/12/07 appeal brief). Since section V is strictly related to "SUMMARY of CLAIMED Subject Matter", applicant is kindly requested to show where the present claims or independent claims 1, 12 and 13 DO RECITE each and every limitation mentioned above. In other words, applicant's SUMMARY of CLAIMED Subject matter is not commensurate in scope with the present invention as instantly claimed. Applicant is also required to map the claim limitations to paragraphs/passages/sections/columns of his specification.